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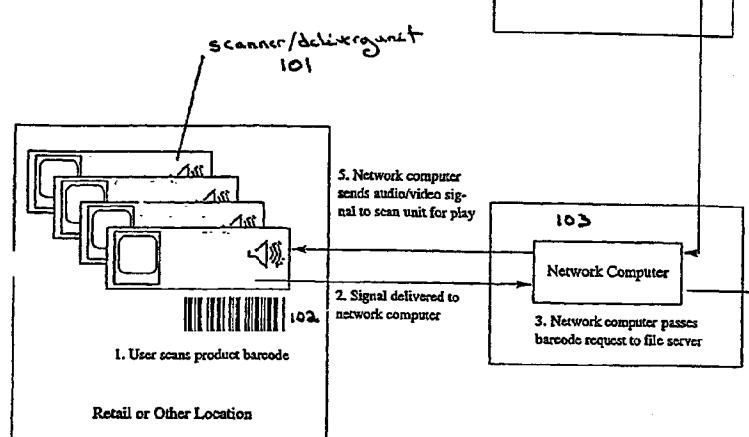
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(54) Title: COMMUNICATIONS SYSTEM FOR PRESENTING INFORMATION TO A CONSUMER



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(57) Abstract: A method and system is disclosed of providing information on an item of merchandise to a consumer. In accordance with the invention, the consumer scans a bar code associated with the item in a scanner/delivery unit. The bar code data is transmitted to a data processing unit where audio or visual information corresponding to the bar code scanned and the item of merchandise is retrieved from the data base and delivered to the scanner/delivery unit to be presented to the consumer. A plurality of scanner/delivery units can exist on a common network, with each scanner/delivery unit having its own TCP/IP address.

## COMMUNICATIONS SYSTEM FOR PRESENTING INFORMATION TO A CONSUMER

This application claims the benefit of U.S. Provisional Application No. 60/155,695, filed  
5 September 23, 1999.

### FIELD OF THE INVENTION

The present invention generally relates to a method and system for providing consumers in a particular geographical location, such as a store, with information and purchasing 10 opportunities regarding items of merchandise. As used throughout, information includes, but is not limited to advertisements, announcements, surveys, technical information, and the like, delivered in an audio, video, and/or graphical form.

### 15 BACKGROUND OF THE INVENTION

See me, feel me, touch me, buy me - these are the dynamics of modern shopping. P. Underhill, Why We Buy, pg 168, Simon & Schuster, 1999. People want to "experience" merchandise before purchasing it, i.e., they want to know what an item does, how does it do it, and can it deliver on promises made in an advertisement. Information about an item for sale is 20 more important than ever in the world of shopping because store owners and salespeople are often unavailable or know little about a particular item for sale. Stores are often structured around an "open sell" school of display that puts all items out on display where they can be examined by a consumer. Although this affords the consumer complete freedom-of-choice, consumers are often lost in the jungle of display items with few guideposts to assist them in 25 formulating their purchasing decisions.

One solution to the consumer's need for information about items for sale is found in music stores. These stores offer the opportunity to listen to a compact disk (CD) or sound recording at selected locations throughout the store before purchasing the CD. However, this represents a limited solution because it applies only to the music store situation and is not 30 generally applicable to the vast array of items for sale in today's stores. Another solution that some stores offer is to place trained personnel throughout the store. These trained personnel are available to answer any questions a consumer may have about a particular item. For example, in a large hardware store, each department has specialists whose job it is to answer questions about the particular hardware in their area, e.g., light fixtures, plumbing, lumber, etc. Yet this solution

## SUMMARY OF THE INVENTION

In accordance with the present invention, a method and system are disclosed for presenting information to a consumer at a particular geographical location, e.g., a store.

The method of the invention comprises the steps of scanning a bar code associated with an item of merchandise in a scanner/delivery unit; sending the information contained in the bar code to a data processing unit; decoding the bar code information; retrieving from a database information corresponding to the item whose identity is provided by the bar code; sending information contained in the database regarding that item to the scanner/delivery unit; and presenting information contained in the database to the consumer at the location of the scanner/delivery unit.

In one embodiment of the present invention, the data information is presented by playing text information over loudspeakers which are linked to the scanner/delivery unit. In a second embodiment, the information is presented in a visual format using a liquid crystal display (LCD) or cathode ray tube (CRT) display unit attached to the scanner/display unit.

The invention also comprises a computer readable storage medium storing a set of instructions which are used to direct the operation of the scanner/delivery units. The set of instructions is capable of being executed by a processor which directs the scanner/delivery units and performs the steps of: receiving bar code information regarding an item of merchandise from a scanner/delivery unit; decoding the scanned bar code information from the scanner/delivery unit; retrieving from a database the information corresponding to the item scanned; sending the information contained in the database regarding the item encoded by the bar code to the scanner/delivery unit; and presenting the information contained in the database to the consumer at the location of the scanner/delivery unit.

In accordance with the invention, the scanner/delivery units may be connected to a network computer through a local area network connection (LAN). Alternatively, the scanner/delivery units incorporate logic audio Input/Output (I/O) boards. The network computer is connected to the file server through a LAN, the Internet or a wide area network (WAN).

In one embodiment, the scanner/delivery unit is comprised of an omni-directional laser bar code scanner housed in a enclosure together with loudspeakers. In another embodiment, the scanner/delivery unit has a video display, which comprises either a LCD or CRT display attached. Optionally, the scanner/delivery unit has a touchpad or keypad which allows the consumer to enter information into the system. In yet another embodiment, the scanner/delivery unit includes an Internet-capable (wireless application protocol ("WAP")) wireless device which allows the customer to enter information into the system or receive information from the system.

too often fails to provide adequate information to the consumer because trained personnel are unavailable, or these trained personnel know little about the particular item in question.

U.S. Patent No. 5,918,211 to Retail Multimedia Corporation discloses a method and system of delivering information to a consumer using a portable bar code scanner which the consumer carries while walking through the store. This method requires that the consumer use an access card to retrieve a scanner from a central location. The consumer scans a particular item in the store and receives data from a central location, including product description, price and promotional information about the scanned item. For security purposes, a video surveillance camera within the portable bar code scanner allows the retailer to monitor each scanner's use throughout the retail establishment. The disclosed method and system only partly addresses the consumer's need for information because it does not allow the consumer to place ad hoc inquiries to a central computer system. Moreover, it restricts the scanners to consumers having an access card and places those consumers under constant video surveillance.

U.S. Patent No. 5,881,483 to C.J. Associates discloses a method for presenting advertisements at the point-of-purchase using a box having a rotary device which displays graphical material. Because of the mechanical nature of the apparatus disclosed, the information available to consumers using this system is limited only to the graphical material contained in each device.

The present invention solves the consumer's need for information by making information available to consumers about any item throughout a store at any time through the use of scanning stations and delivery units that are attached to a computer which retrieves information from a central database in response to consumer inquiries. The method and system also allows for the correlation of different sales information, e.g., the identification of those items for which information has been requested, and shopping patterns within a store.

The invention also comprises means for enabling the system of the present invention to provide information to a consumer in response to questions presented to the consumer, the system comprising: a plurality of scanner/delivery units for scanning bar code information regarding an item of merchandise and delivering information retrieved from a database; a means for entering information into the scanner/delivery unit from a consumer; a means for connecting the scanner/delivery units to a file server; the file server containing a database having information about the items for sale in a store; and a programming means for retrieving information in response to the questions presented by the network computer to the consumer.

**BRIEF DESCRIPTION OF THE DRAWINGS**

Figure 1A is a conceptual diagram of a system in accordance with the invention wherein a plurality of scanner/delivery units are connected to a network computer and file server.

5 Figure 1B is a conceptual diagram of the system wherein a plurality of scanner/delivery units containing logic/audio/I/O boards are connected to a file server.

Figure 2A is a conceptual diagram of the system as a network model wherein a plurality of scanner/delivery units are connected to a plurality of network computers which in turn are connected via a public or private network to a file server.

10 Figure 2B is a conceptual diagram of the system as a network model wherein a plurality of scanner/delivery units containing logic/audio/I/O boards are connected via a public or private network to a file server.

Figure 3 is a flow chart of a basic message query system in accordance with the invention.

Figure 4 is a flow chart of a advanced message query system in accordance with the invention.

15 Figure 5 is a flow chart of consumer inquiry methods in accordance with the invention.

## DETAILED DESCRIPTION AND PREFERRED EMBODIMENTS

### OVERVIEW OF THE SYSTEM

Figure 1A is an illustrative block diagram of the overall consumer information delivery system in accordance with the invention. The network configuration delivers messages directly to consumers about a particular item of merchandise in response to the consumer scanning the item through a bar code scanner. As used throughout, consumers shall be understood to mean any user of the invention to obtain information about an item of merchandise. Pursuant to the invention, a bar code is associated with the item of merchandise. For example, the bar code may be directly affixed to the item or attached to the item by a tag bearing the bar code. Alternatively, the bar code may appear on a separate card that is associated with the item of merchandise. Thus, the expression "associated with" is intended to encompass all feasible means of associating a particular bar code with a specific item of merchandise.

A scanner/delivery unit 101 is linked to a network computer 103. In turn, the network computer 103 is linked to a file server 104 that contains a database of all information about items for sale. A consumer scans the bar code of an item of interest through a scanner/delivery unit 101. The scanner unit reads a bar code 102 which is associated with the item and the scanner/delivery delivers the signal containing the bar code information to a network computer 103. Pursuant to the invention, the file server 104 searches a database for a data file matching a particular bar code, retrieves the information and transmits the file containing the audio or video information to the network computer 103 which in turn delivers the information to the scanner unit. The scanner unit may also be configured in such a way that information retrieved about the item can be delivered to the consumer in an auditory, visual, or graphical manner using a delivery unit linked to the scanner unit. Optimally, the invention also provides the consumer with the opportunity to "close the loop" and act on that retrieved information to initiate the purchase of the item. The method comprising this action comprises the steps of scanning a second bar code designated "purchase", responding to purchase information displayed on a CRT or touch-screen and initiating a wireless session to conclude the transaction. These actions may be accomplished by using the customer's cellular phone, or personal data assistant (PDA).

In one embodiment, a plurality of scanner/delivery units 101 is distributed throughout a particular geographical location, e.g., a store. Scanner/delivery units 101 contain omni-directional laser scanners for processing of bar code information. The scanner/delivery unit 101 can be linked via a wireless means or directly through a cable connection to a scanner unit (collectively the scanner unit and delivery unit are referred to as the "scanner/delivery unit").

The scanner/delivery units 101 may have loudspeakers linked to it for delivery of audio information. The scanner/delivery units 101 may also have LCD or CRT displays for delivery of both audio and visual information to a consumer. The scanner/delivery units 101 may also be equipped to have touchpads, keypads, or wireless devices for entry of ad hoc inquiries by a consumer. Scanner/delivery units 101 may also have external ear-cups, such as headphones, to permit the audio information to be delivered only to the consumer who requests the information. Scanner/delivery units 101 may also comprise wireless forms of communication. In such an embodiment, a part of the delivery unit is physically unconnected to the scanner unit. Wireless means comprise devices, such as a cellular telephone, a hand held PDA or a portable personal computer (PC).

In an embodiment of the wireless form, the scanner/delivery unit 101 retrieves from the file server 104 through the network computer 103 a universal resource locator (URL) address corresponding to the item of merchandise that is scanned. The consumer directs the wireless communication device to locate the designated URL on the Internet. This designated URL contains information about the specific product as well as hyperlinks to other sites of interest on the World Wide Web.

In another embodiment, the scanner/delivery units 101 are connected directly to the network computer 103 using a standard networking protocol. The scanner/delivery units 101 may be connected to the network computer 103 via an ethernet connection networking system. Alternatively, scanner/delivery units 101 are linked to the network computer 103 via the Internet, either directly via an ethernet connection, or through a wireless communication means.

In yet another embodiment, the scanner/delivery systems may also incorporate a logic audio I/O board 107 that is capable of processing the bar code data received from the laser scanner 106 and sending the information directly to a file server. 110. Figure 1B is a conceptual diagram of the system where a plurality of scanner/delivery units containing logic audio I/O boards are connected directly to a file server. 110.

Figure 2A illustrates the system for delivering information to a consumer over a public or private network. A plurality of scanner/delivery units 201 may also be linked to a plurality of network computers 202. The network computer's 202 are interconnected via a hub 203 and the hub 203 is networked with a file server 205 through a public network, a private network, or the Internet 204, 205. A hub 203 comprises any device that connects two or more network devices enabling them to communicate.

In another embodiment, the scanner/delivery units incorporate a logic audio I/O board 207 that is capable of processing the bar code data received from the laser scanner 206 and

sending it directly to a file server. 212. Figure 2B is a conceptual diagram of the system as a network model wherein a plurality of scanner/delivery units containing logic audio I/O boards are connected via a public or private network to a file server.

## 5 LOGIC AUDIO I/O BOARD

A logic audio I/O board 107, 207 may be linked to each scanner/delivery unit 109. The logic audio I/O board 107 functions as a gateway to the file server 110, 212, either via a LAN connection or the Internet. The logic audio I/O board 107, 207 possesses: (i) boot up capability; (ii) an operating system; (iii) basic I/O functions; and, (iv) TCP/IP functionality. Each 10 logic audio I/O board 107, 207 is capable of receiving a unique internet protocol (IP) address which allows the file server 110, 212 to discriminate between any number of scanner/delivery units, in order to deliver the exact digital message to the proper scanner/delivery unit making the request for information. Hard-coded software embedded in chips on the logic audio I/O board 107, 207 mediates and passes data received from a barcode laser scanner 106, 206 to a file server. 15 110, 212. These requests trigger a database search on the file server 110, 212 which — if the request is valid — returns a unique audio/video file to the logic I/O board. 107, 207. When the data is received, the motherboard component of the logic audio I/O board 107, 207 passes the audio signal to a daughterboard on the main I/O logic board which translates and amplifies the audio signal to a level that can be played and heard through a conventional 4" loudspeaker housed 20 within the scanner/delivery units.

The logic audio I/O board 107, 207 may be linked to the file server 110, 212 by an ethernet connection. Alternatively, the logic audio I/O board 107, 207, may be linked to the file server 110, 212 by a public network such as the Internet.

## 25 NETWORK COMPUTER

The network computer 103, 202 comprises software and hardware that decodes the bar code information received from a scanner/delivery unit 101, 201. The network computer 103, 202 identifies the IP address of a scanner/delivery unit 101, 201. IP addresses can be allocated dynamically using a DHCP protocol running on a file server 104, 205 or, statically by 30 assigning an IP address through a browser session at the time the scanner/delivery unit 101, 201 joins the network computer 103, 202. In one embodiment, the network computer 103, 202 comprises a separate PC or alternatively a central processor unit (CPU) incorporated into the scanner/delivery unit 101, 201. The network computer 103, 202 can be programmed in any number of different computer languages, including C, C++ or Java®.

The network computer 103, 202 is linked to a file server 104, 205. In one embodiment, the network computer is linked by an ethernet connection to the file server 104, 205. In another embodiment, the network computer 103, 202 is linked to the file server 104, 205 via public network such as the Internet or through a private WAN 204. The connection between the network computer and the file server can be a hardwire cable connection. Alternatively, the network computer 103, 202 is attached by a wireless means.

## FILE SERVER

The file server 104, 110, 205, 212 comprises hardware and software for retrieving 10 and organizing a database containing information about the items available in a store. In one embodiment, the file server can be a Windows NT® file server. In another embodiment, the file server is UNIX-based. Other operating systems, such as Linux, NeXtStep®, MacOS and OS/2® can be used interchangeably with Windows NT® or UNIX.

The file server 104, 110, 205, 212 retrieves information about a particular item in 15 response to a bar code scan from a scanner/delivery unit 101, 201, through a network computer 103, 203, or a logic audio I/O board 107, 207 using a relational database management system. Any relational data base management system program can be used to manage the database. The relational database management system program preferably uses a Structured Query Language ("SQL"), a fourth generation computer language. The SQL package contains various program 20 tools which may be utilized in the present invention. The most important of these program tools include: SQL\*PLUS, a program for creating, modifying, storing and maintaining the database and SQL\*CALC, a program with standard spreadsheet capabilities which can also access and manipulate database information.

The information stored in the database includes: (i) technical specifications about 25 an item available in a store; (ii) price information about said item; (iii) comparative pricing information about said item; (iv) graphical and pictorial information about said item; (v) sales and promotional messages; or (vi) a URL address for a website containing information and hyperlinks to other Internet sites of interest on the World Wide Web.

## 30 MESSAGE QUERY

Figure 3 details a software program directing the network computer 103, 202 or the logic audio I/O board 107, 207 in a basic message query and delivery mode. In one embodiment, the software program directing the network computer 103, 202 is written in

JAVA® 308. The software program can also be written in any number of different programming languages, including C or C++.

The network computer 103, 202 or logic audio I/O board 107, 207 waits for a bar code message sent to it from the scanner/delivery units 101, 109, 111, 112, 201, 213, 214, 215.

5 If output is detected from the scanner/delivery units 101, 109, 111, 112, 201, 213, 214, 215 the network computer 103, 202 or logic audio I/O board 107, 207 determines whether the output is valid 302. Output is valid if the scan is in an approved bar code format, e.g., Code 39, UPC-A, UPC-E, or EAN-13. If the bar code information is valid 302, the network computer 103, 202 or logic audio I/O board 107, 207 sends the bar code data 303 to a file server 104, 110, 205, 212 which determines the buffer and IP address of the scanner/delivery unit 101, 109, 111, 112, 201, 213, 214, 215 generating the bar code message.

The file server 104, 110, 205, 212 queries the database for a data file matching the bar code information 305 affixed to a particular item. If a match is found 306, the file server 104, 205 passes that data file through the network computer 103, 202 to the scanner/delivery unit 101, 201 having a unique IP address 307 as determined above. In another embodiment, the file server 110, 212 passes the data file directly to the logic audio I/O board 107, 207. In one embodiment only audio information 309 is retrieved from the file server 104, 205. A software program directs the playing of the audio information over the loudspeakers in the scanner/delivery units. 101, 109, 201, 213.

20 Video, graphical as well as other forms of information may also be stored in the file server 104, 110, 205, 212 retrieved and transmitted through the network computer 103, 202 or directly to the logic audio I/O board 107, 207 to the scanner/delivery units 101, 109, 111, 112, 201, 213, 214, 215. Figure 4 details the retrieval and delivery of audio 406 or visual information 407 to the scanner/delivery unit 101, 109, 111, 112, 201, 213, 214, 215. A network computer 103, 202 or logic I/O board 107, 207 detects information from a scanner/delivery unit 301 and determines whether the output is valid 402. If the output is valid, 402 the network computer 103, 202 or the logic audio I/O board 107, 207 saves the bar code data 403. The network computer 103, 202 or the logic audio I/O board 107, 207 determines and saves the IP address of the scanner/delivery units generating the request for information 404. The network computer 103, 202 or the logic audio I/O board 107, 207 determines the type of bar code file 405, i.e., audio 406 or video 407, and then queries the file server 104, 110, 205, 212 to retrieve and deliver the file containing the requested information, audio or visual, (audio file 410; video file 413) to the network computer 103, 202 or the logic audio I/O board 107, 207. The information is delivered through the network computer 103, 202 or directly to the logic audio I/O board 107, 207 to the

scanner/delivery unit 101, 201 at the appropriate IP address. If audio information is present in the database, the audio file 406 is delivered to the scanner/delivery unit 101, 109, 111, 112, 201, 213, 214, 215 requesting the information as an audio clip 410. A software program directs the scanner/delivery unit 101, 109, 111, 112, 201, 213, 214, 215 to play the audio clip over the

5      loudspeakers. In one embodiment the software program is written in Java® 411.

If video information is present in the database, the video file 407 is delivered to the scanner/delivery unit 101, 109, 111, 112, 201, 213, 214, 215 requesting information 413. A software program directs the scanner/delivery unit 101, 109, 111, 112, 201, 213, 214, 215 to display the video clip on the video display. In one embodiment, the software program is written

10     in Java® 414.

After playing the audio or visual clip, the network computer 103, 202 or the logic audio I/O board 107, 207 resets itself and waits for new input 412, 415.

If there is no audio or video file is found in the database corresponding to the bar code scanned, the software program checks privilege 416, checks the validity of the instructions

15     417, and resets the network computer 103, 202 or the logic audio I/O board 107, 207 to wait for input of another set of scanned bar code information from a scanner/delivery unit 101, 109, 111, 112, 201, 213, 214, 215.

## 20    MESSAGE MANAGEMENT

Messages are recorded using standard analog or digital techniques. Analog messages are digitized using commercially available software and hardware. The resulting sound or video files are edited and optimized for network delivery and stored in the database on the file server 104, 110, 205, 212. Audio messages are edited and compressed using commercially

25     available software and hardware into a format that is recognized by a network computer 103, 202 or the logic audio I/O board 107, 207. Before posting to the file server 101, 109, 111, 112, 201, 213, 214, 215 the media file (sound or audio) is coded to match the bar code on a desired product. Multiple messages may be assigned to single products although each individual message must be associated with a unique bar code. Bar codes are generated using commercially available

30     bar code generating software. New messages may be added to the database stored on the file server 104, 110, 205, 212 from any type of media, including: (i) CD-ROM; (ii) hard drive; (iii) floppy diskette; (iv) over a LAN, WAN, or the Internet.

## SALES PATTERN INFORMATION

In addition to the database containing information on the items for sale, the file server 104, 110, 205, 212 is also capable of storing a wide range of information received from the scanner/delivery units 101, 109, 111, 112, 201, 213, 214, 215. The file server 104, 110, 205, 212 can compare information received from the scanner/delivery unit 101, 109, 111, 112, 201, 213, 214, 215 with other information available in other databases. In one embodiment, the file server 104, 110, 205, 212 correlates information about which items information is requested, against the inventory information available for the store, e.g., which items are in stock. This comparison can be executed using commercially available software programs such as NCR Store Minder®, available from NCR Corporation, which allows for real-time monitoring of all store automation events. In a second embodiment, the file server 104, 110, 205, 212 correlates information about which items information is requested against whether these same items are actually sold. In this embodiment, the file server 104, 110, 205, 212 is linked to the computers directing the sales registers. In a third embodiment, the file server 104, 110, 205, 212 correlates information about which items information is requested against whether these same items are subject to special promotional sales within the store. In a fourth embodiment, the file server 104, 110, 205, 212 provides the consumer scanning the item with special discounts, e.g., the item scanned will be available free to the consumer scanning that item.

20

## SCANNER/DELIVERY UNITS

Bar code scanners are electro-optical systems that include a means of illuminating a symbol and measuring reflected light. The light waveform data is converted from analog to digital, in order to be processed by a decoder (which is either built into the scanner, or attached as a separate plug-in device). The decoder information is then transmitted over the network

In one embodiment, a laser scanner employing a beam created by a laser diode that is spread into a horizontal arc by means of a rapidly moving mirror is used. In a second embodiment, an omni-directional laser employing revolving polygons or oscillating mirrors, sophisticated moving-beam rastered, cross hatched, or starburst pattern for improved readability and omni-directional laser scanning is used.

The bar code output, a binary digital stream, is delivered from the scanner/delivery units 101, 109, 111, 112, 201, 213, 214, 215 over a public network, e.g., the Internet, to a

transmission control protocol/ Internet protocol (TCP/IP) compliant systems, capable of running a browser session that allows users to download World Wide Web pages.

5 The delivery units may be physically packaged together with the scanner units (scanner/delivery units). These units receive information from a network computer 103, 202 or the logic audio I/O boards 107, 207 and then deliver that information to a consumer who has scanned the particular item

In one embodiment, the information is delivered in an audio format. The audio information is played at the delivery unit via loud speakers. Any conventional loud speaker can be used to provide audio information.

10 In another embodiment, the information is delivered in a audio/visual format. Visual information is displayed at the delivery unit using an LCD or other means of video display such as a CRT.

15 In a third embodiment, the delivery units incorporate touchpads or keypads for entry of ad hoc inquires from a consumer. This embodiment elicits and captures response from the consumer (e.g., feedback on advertisements and promotions). For example, the consumer could view a screen displaying a series of questions after scanning the item in question.

Delivery units may also comprise wireless forms of communication. In this type of embodiment, a part of the delivery unit is physically separate from the scanner and comprises a wireless device, such as a cellular telephone, a hand held PDA or a PC.

20 Figure 5 illustrates an embodiment, wherein the delivery units incorporate touch screen displays for recording consumer responses to questions. The consumer touches the screen with a finger to indicate a "Yes" answer to a question displayed on the touchscreen 501. If the consumer indicates a "Yes" answer, the network computer 103, 202 or logic audio I/O board 107, 207 sends a query data message 502 to the file server 104, 110, 205, 212. The network computer 103, 202 or logic audio I/O board 107, 207 captures the scanner/delivery station IP address 503 and determines which question was answered 504. The network computer 103, 202 or logic audio I/O board 107, 207 retrieves from the file server 104, 110, 205, 212 data associated with the scanned bar code 505 and sends the data to the scanner/delivery unit 101, 109, 111, 112, 201, 213, 214, 215 through the network computer 103, 202 or directly to the logic 25 audio I/O board 107, 207.

30 Table I below illustrates a typical query/response for a consumer in this embodiment.

**Table I: Visual Display Questions**

Question	Possible Consumer Responses on the Keyboard	Information Provided from File Server
Would you like information about similar items to the one you scanned?	Yes	A list of similar items providing comparable functionality is provided to the shopper in an audio or visual format.
Would you like to know the prices of the same item at other stores?	Yes	A list of prices of the same item within the same geographical area is provided.
If the item is unavailable, would you like to order a new item?	Yes	The consumer is then asked to provide a contact, e.g., telephone number or e-mail, allowing the store to contact the consumer after the item has arrived.

The consumer answers a question by touching the screen 501. The scanner/delivery unit 101, 201 sends the answer as well as the IP address of the scanner/delivery unit 101, 201 to the network computer 103, 202 or directly to the file server 104, 110, 205, 212 through the logic audio I/O board 107, 207, which in turn queries the file server 104, 110, 205, 212 for information in the database corresponding to the bar code. The file server 104, 110, 205, 212 retrieves the answer 505 to the question from the database and forwards the information through the network computer 103, 202 or to the scanner/delivery unit 101, 109, 111, 112, 201, 213, 214, 215 or directly to the logic audio I/O board 107, 207 where it is delivered to the consumer in audio, graphical or video form 506.

The following are examples of illustrative embodiments of the information delivery system.

15

#### **Example 1 – Basic Information**

Shopper A sees a new MP3 music device (“RedHot”) for downloading and playing music from the Internet. She wants to know whether the device is compatible with her computer and what optimal download speed would be required to retrieve files from an MP3 site on the World Wide Web. She removes the box from the shelf and proceeds to a scanner/delivery unit located nearby. She scans the unit. The bar code affixed to the MP3 device is decoded by the network computer and a file containing information about “RedHot” retrieved from a UNIX file server. The network computer transmits the information over a LAN to the scanner/delivery unit.

The following information is contained in the file: (i) the MP3 unit is compatible with all Windows® based systems; and (ii) requires the use of a modem having a speed of 57KBP or higher for effective data download of music from the Internet. Shopper A hears this information played to her from an audio file by a Bose speaker integrated into the delivery unit.

5

### **Example 2 – Requests for Additional Information**

Shopper A sees a new plastic wood board for decks called “PLASTI”, a proprietary product made by Company X. She wants information about how to use “PLASTI”. She scans the bar code affixed to a sample of “PLASTI” and the information stored in the 10 database on the Windows NT® server is retrieved from the file server by the network computer. The database contains information about: (i) available sizes; (ii) cutting and drilling procedures; (iii) handling characteristics; and (iv) painting and staining compatibility. Shopper A listens to information over the loudspeakers. After hearing the information, she wants additional information about PLASTI and enters responses to the following questions on a keypad.

15

<b>Question</b>	<b>Possible Consumer Responses on the Keyboard (no response is equivalent to, “No information is requested by Consumer.”)</b>	<b>Information Provided by the File Server</b>
Would you like information about similar items to the one you scanned?	Yes	1. Plastic Board 2. Plywood 3. Mortar Board
Would you like to know the prices of the same item at other stores?	Yes	1. 10\$/foot – Home Depot® 2. 12\$/foot – True Value®
If the item is unavailable, would you like to order a new item?	Yes	Consumer A's email address: consumerA@contact.com.

While certain preferred embodiments of the invention have been described, these embodiments have been presented by way of example only, and are not intended to limit the scope of the present invention. For example, although the disclosure is focused on the use of the system and method to provide information over a private or public network such as the Internet to a consumer at the point of purchase, it will be appreciated that the disclosed system and method, and various features thereof, can be used to provide online services over other types of distributed networks, including wireless, private and hybrid public-private networks.

What is claimed is:

1. A method for providing information to a consumer comprising the steps of:
  - 5 scanning and decoding a bar code associated with an item of merchandise in a scanner/delivery unit;
  - transmitting data from the bar code to a data processing unit;
  - retrieving from a database, information corresponding to the item and scanned bar code scanned from the item;
  - 10 sending the information on the item retrieved from the database to the scanner/delivery unit; and
  - presenting the information to the consumer at the scanner/delivery unit.
2. The method of claim 1, wherein the information is presented as audio information.
- 15 3. The method of claim 1, wherein the information is presented visually.
4. The method of claim 1, wherein the information on the item is presented to the user by a wireless communication means.
- 20 5. A computer readable storage medium storing a set of instructions, the set of instructions capable of being executed by a processor which controls at least one scanner/delivery units, the set of instructions comprising:
  - scanning a bar code associated with an item of merchandise in a scanner/delivery unit;
  - decoding the bar code received from the scanner/delivery unit;
  - 25 retrieving from a database information corresponding to the item and scanned bar code;
  - sending the information to the scanner/delivery unit; and,
  - presenting the information on the item to a consumer.
- 30 6. A system for presenting information on an item of merchandise to a consumer, comprising:
  - a plurality of scanner/delivery units for scanning and decoding bar codes linked to the item;
  - a means for retrieving information on the item scanned from a database;

a means for connecting the scanner/delivery units to a file server, wherein the file server contains the database; and,  
a means for delivering the information to the consumer.

5 7. The system of claim 6, wherein the scanner/delivery units are connected to the file server through a local area network connection (LAN).

8. The system of claim 6, wherein the scanner/delivery units are connected to the file server through the Internet or a wide area network (WAN).

10 9. The system of claim 6, wherein the scanner/delivery unit comprises an audio component for delivery of audio information on the item scanned.

15 10. The system of claim 6, wherein the scanner/delivery unit comprises a visual display component display of visual information on the item scanned.

11. The system of claim 6, wherein the scanner/delivery unit comprises a means for entering data about the item by finger touch.

20 12. The system of claim 6, wherein the scanner/delivery units comprises a logic board having audio and input/output components.

13. A method for providing information on an item of merchandise to a consumer, comprising:

25 A method for providing information to a consumer, comprising the steps:  
scanning a bar code associated with an item of merchandise;  
transmitting data from the bar code to a data processing unit;  
retrieving from a database, information corresponding to the item and scanned bar code scanned from the item;

30 presenting at least one question about the item to the consumer;  
receiving an answer from the consumer to the question;

retrieving a reply to the answer to the question from the database; and

presenting the reply to the question to the consumer.

Figure 1A

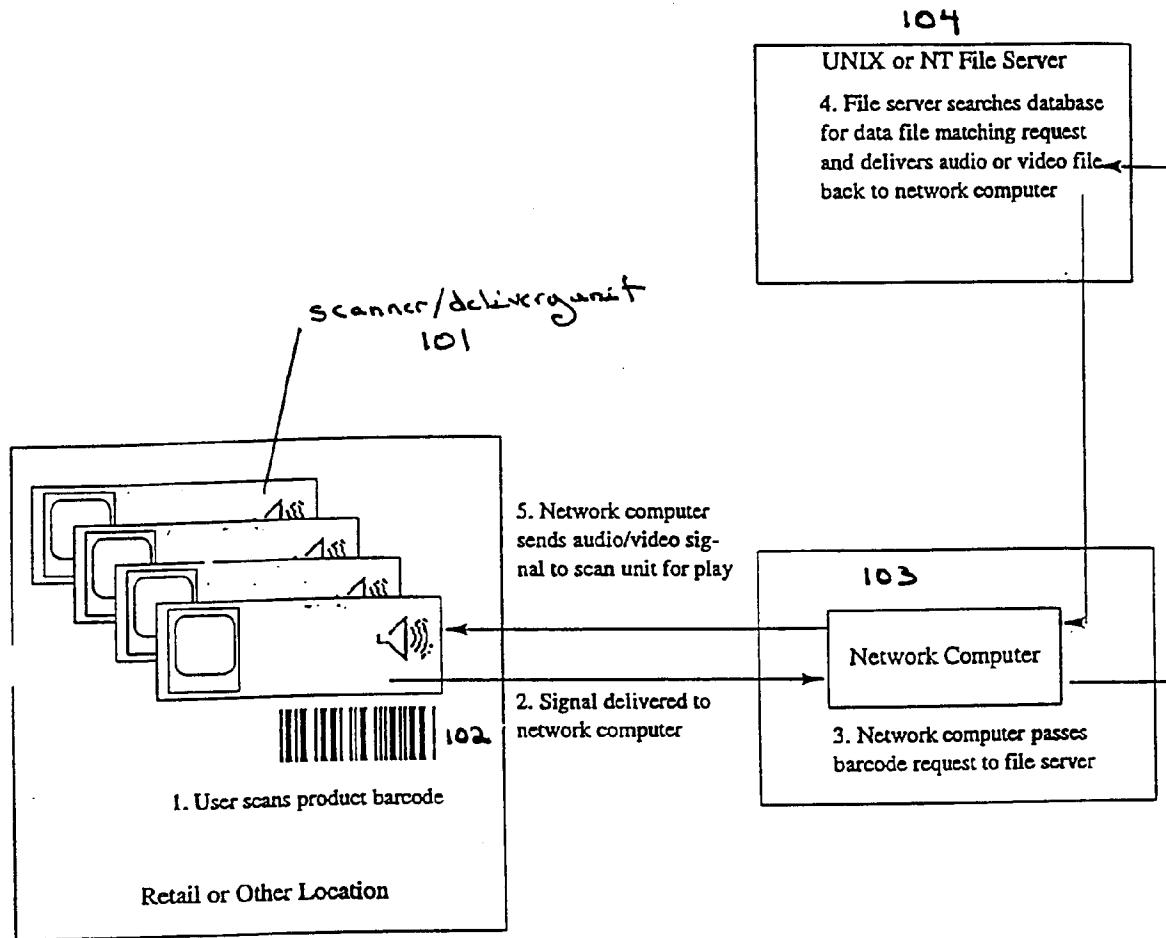
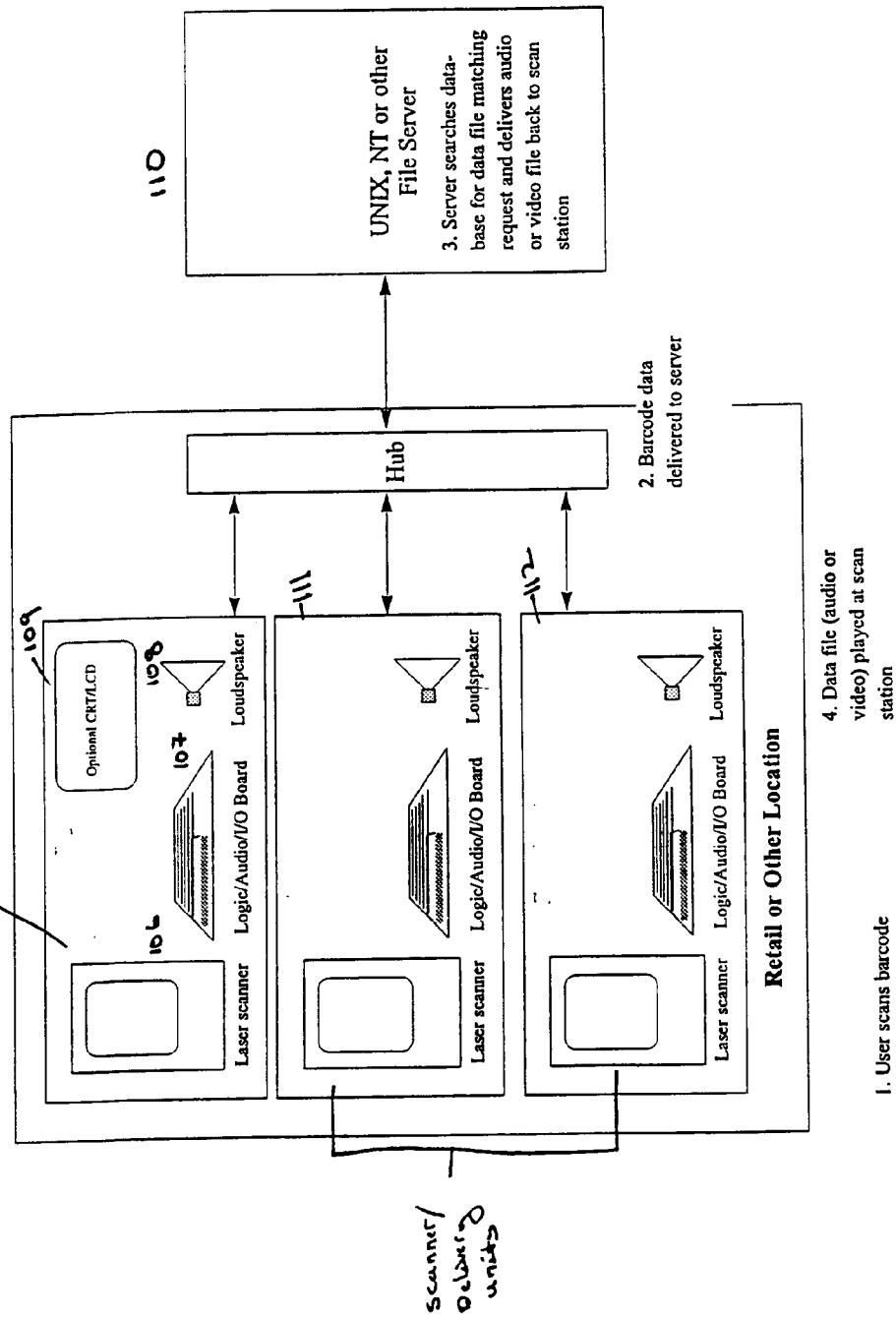


Figure 1B  
Scanner/Display Unit 105

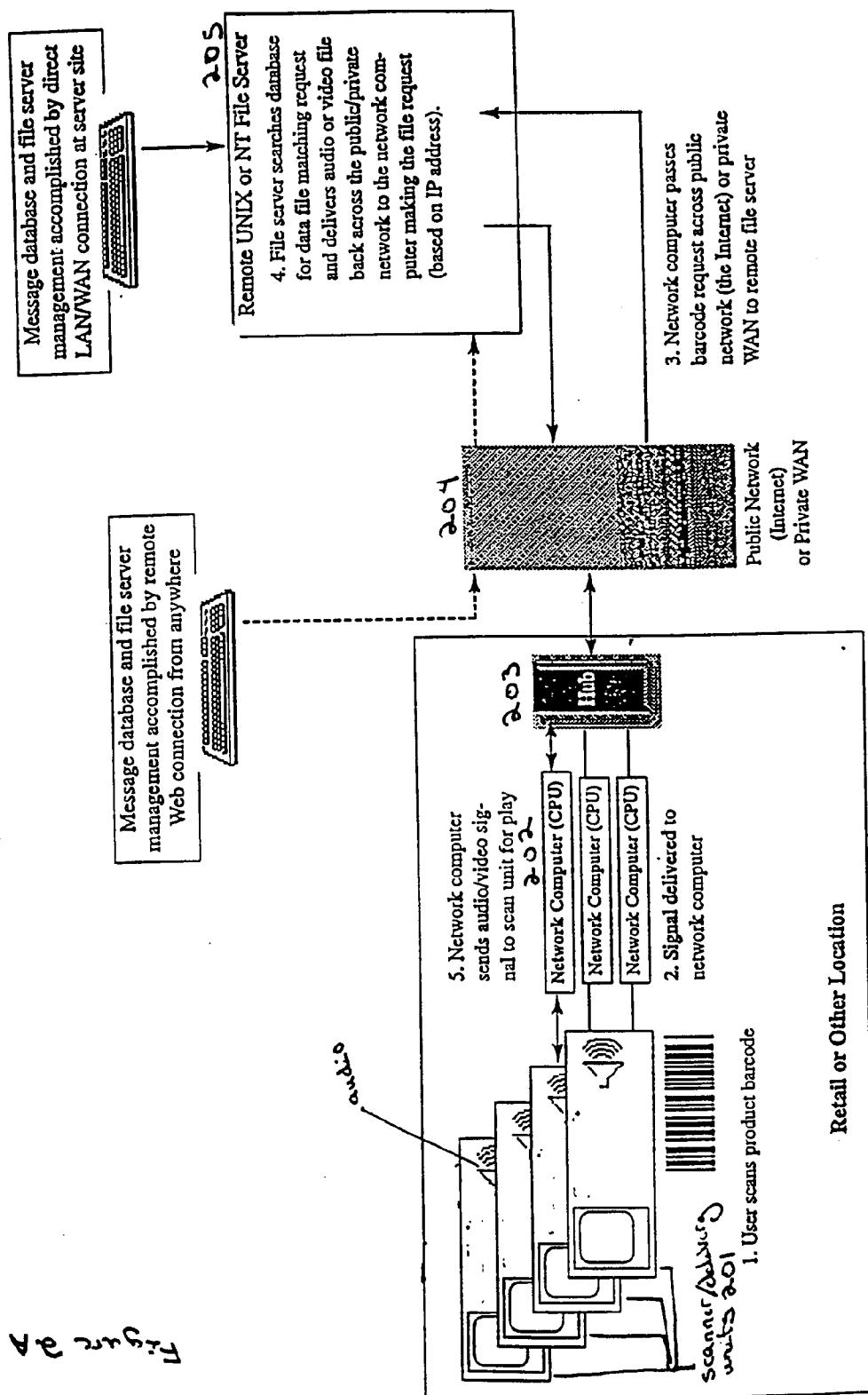


Figure 2B  
Scanner/Delivery units

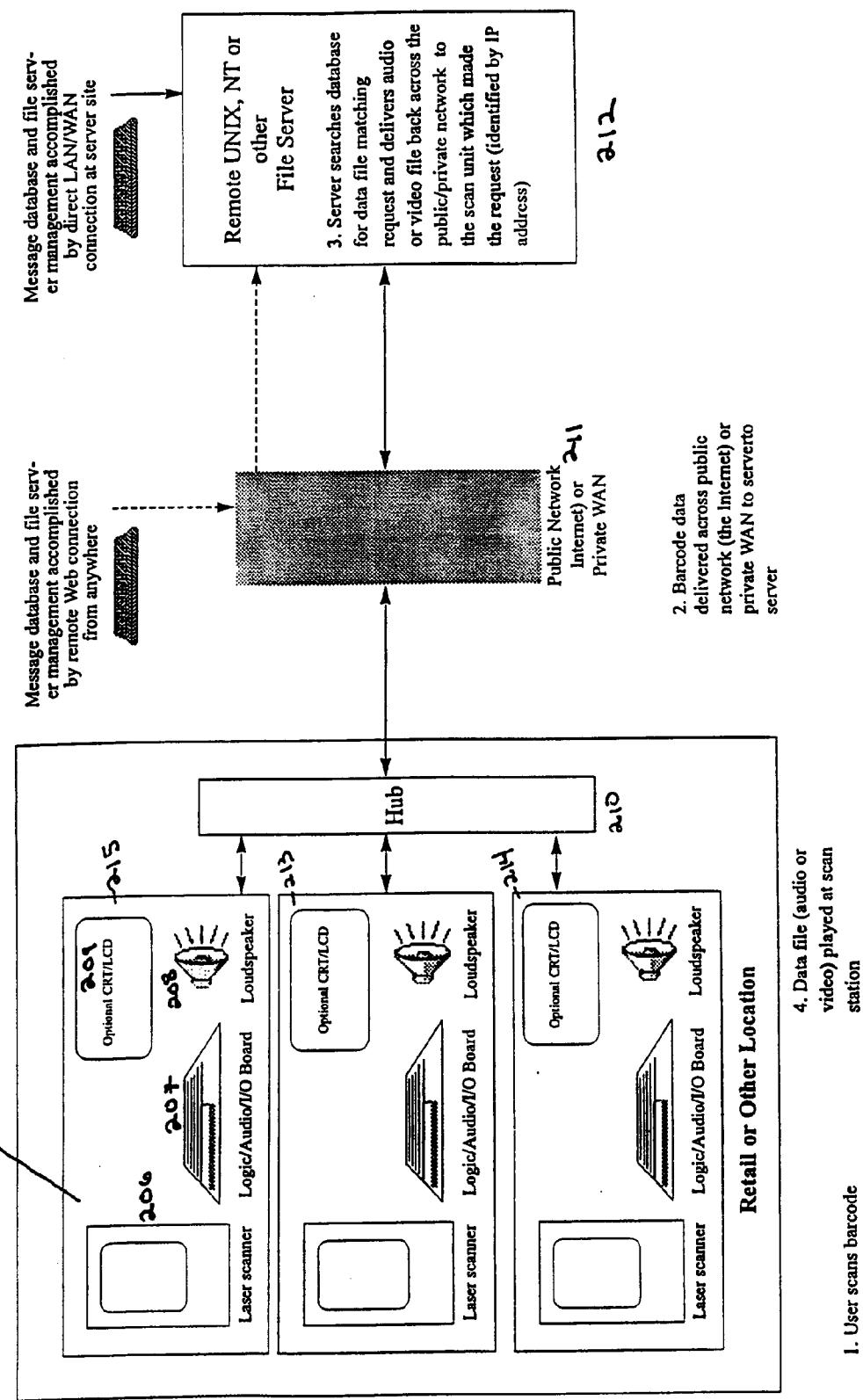


Figure 3

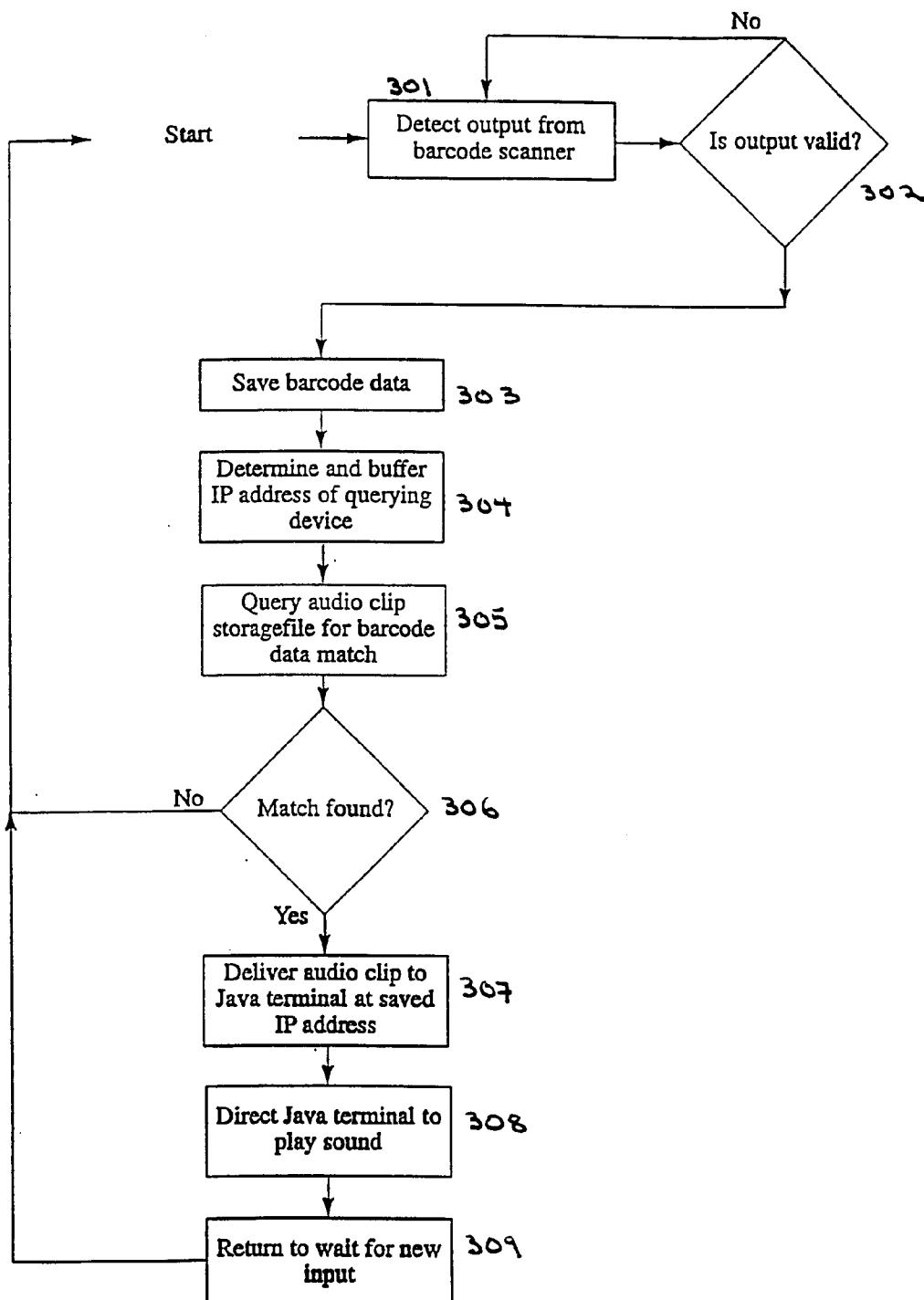


Figure 4

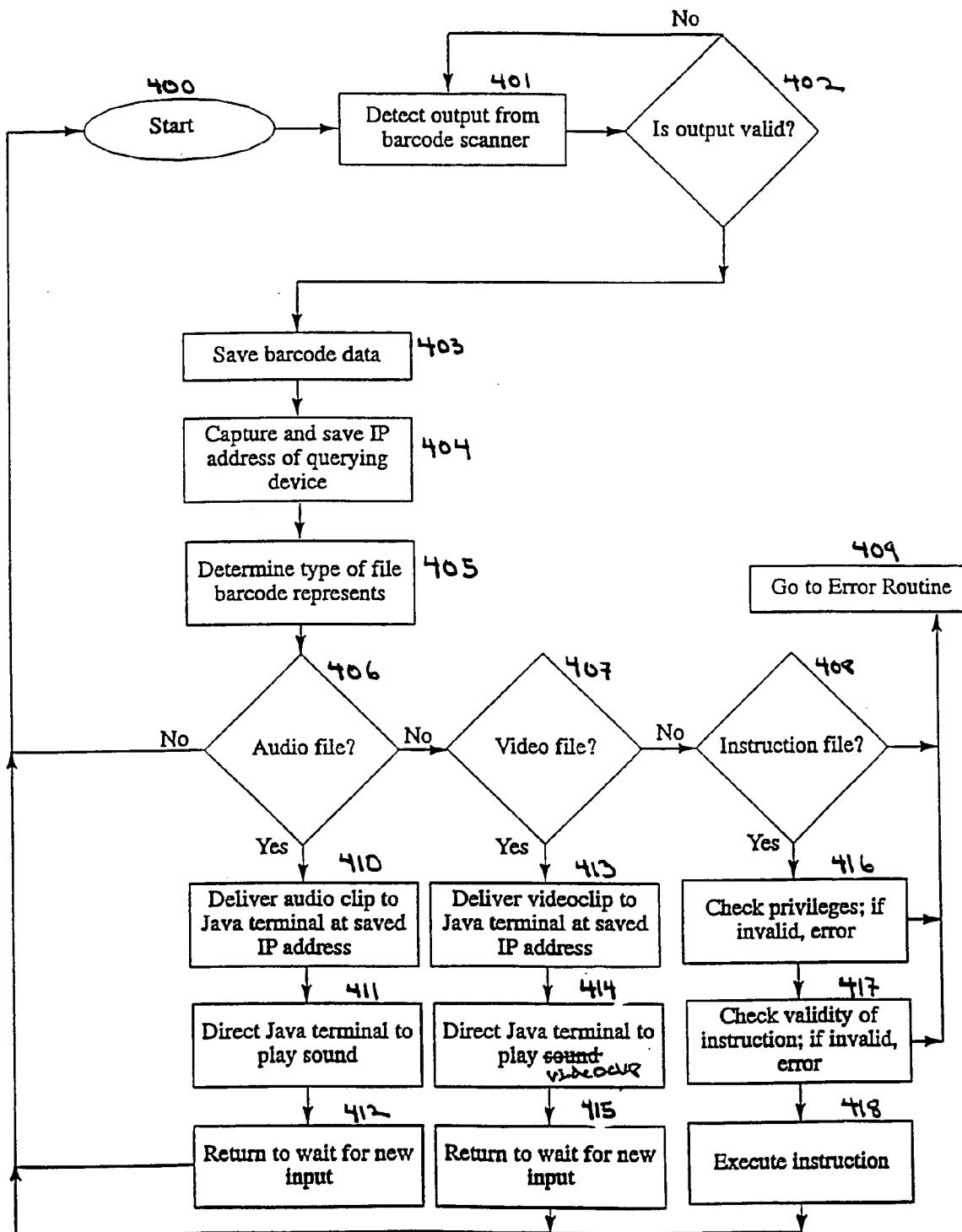


Figure 5

1. Touch-screen Display  
X other information choices

Question	Response
A	Yes
B	Yes
C	Yes
D	Yes
etc.	Yes

2. Consumer selects a question by  
touching "Yes" for that question  
(No is redundant).

